



Health Education in Transition

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The Dorothy B. Nyswander Lecture Series was established to honor a pioneer of health education in the United States. In his remarks inaugurating the series Dr. Charles E. Smith, dean of the School of Public Health, University of California, pointed to the particular appropriateness of using this approach so as to prolong into the future the dynamic influence of Dorothy Nyswander. Recognized as a national and international leader in public health, she has put her stamp on health work by her basic studies in school health programs, more specifically the Astoria demonstration, and by training a host of students. For the first lecture, a "uniquely 'permissive' lecturer" was selected; appropriately enough he chose as his subject to analyze the moving tides in health education and to speculate on the distant shores to which we are moving. The implications of Dr. Derryberry's analysis are far-reaching indeed, and merit the serious consideration of all health workers.

✻ To be invited to give the first Dorothy B. Nyswander lecture is a signal honor and one of which I am deeply appreciative. It is all the more pleasing to me because I count Dr. Nyswander as one of my close friends. I have chosen "Health Education in Transition" as the subject for this lecture, partly be-

cause so much change in health education has occurred since Dr. Nyswander first entered public health and partly because of the dynamic changes now in progress.

Many forces are importantly related to the process of health education—the health level of the people, the disease problems causing disability and death, the health resources available, the physical location of the people, the communication media, the economic and cultural resources, the kinds of action people must take to improve their health, and the facts known about behavior and its change. A review of the changes in these elements should help to focus today's health education efforts and may point toward possible future developments.

What were the conditions existing, roughly, a quarter of a century ago? When Dr. Nyswander began her pioneer work in public health how adequate was the information that could be given

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about the health problems of that time? What were some of the educational and sociologic situations that influenced the health education efforts? What was known about learning and behavior change that could be applied to health education tasks?

One-fourth of the deaths were from acute infectious diseases. Diphtheria, scarlet fever, pneumonia, septicemia, whooping cough, infant diarrhea and enteritis, tuberculosis, malaria, dysentery, and syphilis were the diseases that held the forefront of attention. They were the concern of both the professional health worker and the public. Why these diseases demanded so much attention and interest is quite understandable when one considers that in the early twenties the number of reported annual deaths for most of the more fatal infectious diseases exceeded the number of cases now reported annually. Actually, the average annual deaths from all infectious diseases for the three-year period 1924-1926 was 305,000; whereas for the period 1954-1956 the average was 82,000.¹

The significance of these figures becomes all the more evident when it is recalled that the population in which they occurred was less than two-thirds of its present size, and also that reporting of vital events was much less complete then than it is today.

These were the problems toward which public health and health education were directing attention in the late twenties. To be sure, chronic diseases and other disabling conditions were among us, but by and large they were looked upon by the people as the natural result of growing old. It was the acute illnesses that aroused the people's concern. When disease struck, usually many members of the community were involved, onset was fairly sudden, and the end result was often tragic.

The widespread interest of people in avoiding the infectious diseases was a

real asset to health education. People responded to education about the need for health departments and many were organized about that time. What is more, the departments were given unusual authority to enforce regulations and carry out sanitary measures to reduce communicable disease hazards. This community action may have somewhat obscured to workers of that day, and even of this, the motivational factors in the situation as I shall attempt to point out later.

But other elements in the situation at that time were not so favorable for effective education on how to avoid these diseases or reduce their impact, if one was stricken. There was not always clear, specific information that could be given on what to do. To be sure, vaccination against smallpox had been a preventive since 1798 (1800 in this country),² but this protective action often was not readily taken because the aftereffects of vaccination were frequently painful and disfiguring. Mass immunization against diphtheria became available in the early twenties, but for most other conditions no specific individual action could be advised, either to prevent the disease or to cure it.³

Such information and advice as was given was on general cleanliness—thought of as next to godliness—and rules of hygiene. The exact relation that taking baths and observing such other rules bore to specific disease prevention was not scientifically determined and hence was often impossible to explain to the public.

From the standpoint of education approximately 6 per cent of our population 10 years of age and over were illiterate, and the median number of school years completed was only about eight years.⁴ Among groups with such limited educational experience it was difficult to interpret scientific findings of medicine into meaningful terms for behavior change.

Nearly one-half of the people lived in rural areas where opportunities for communicating information were infrequent.⁵ Health workers had little chance to study the existing health ideas and practices of these rural folk as a basis for planning meaningful education.

Even where there was specific health information to communicate to the people, there was not the extensive mass communication network of today. Radios did not become available commercially until 1921⁶ and, of course, television was mentioned only in science fiction.

The average weekly earnings of all wage earners was under \$27.00 per week.⁷ The extremely low income of many people, which this average reflects, may not have reduced their concern about health, but in the struggle for the other necessities of living they often could not afford the health action that might have been indicated.

Individuals engaged in health education (there were a very few pioneering health educators) were not only hampered by a lack of scientific medical knowledge, by limitations in communication, and by educational and economic considerations, but were just as seriously hindered by the lack of understanding of how people—especially adults—learn and change their behavior.

Much research had been done by psychologists, sociologists, and anthropologists, and was being done at this time, but their findings had not yet been made available in forms which health workers found usable.

Much of the effort of the psychologists was being devoted to psychologic testing of intelligence and personality traits, together with statistical manipulations or interrelations, in the search for causal factors. In general, psychologists were not too interested in practical problems. Social psychology, as such, had not yet been accepted as an experimental social science. Group be-

havior was explained, using such vague concepts as "instinctive social forces," or "the mob spirit," or "the group mind." The public health worker found little practical advantage in understanding these concepts.

The sociologists' contributions were, primarily, systematic descriptions of society and the inner workings of the social components of a community. Health workers, in general, felt more at home with the methodology involved in such descriptions, for it more nearly approached the type of data collection and treatment they were accustomed to using in their epidemiologic investigations.

In so far as anthropology was concerned, it was just beginning to focus on modern culture. Much of the investigative effort up to this time had been spent in intensive field work, recording in detail the customs of the primitive peoples of the earth.

In general, social scientists had little to offer public health in the way of practical knowledge, primarily because they were not too interested in communicating what information they had uncovered. At the same time, public health workers were scarcely aware of social science as a rich source of help for their problems. Even had they been aware, the communication problem probably would have been a barrier.

Lacking systematic and scientifically established knowledge about ways of educating the public and of changing their habit patterns, health workers often borrowed methods from fields of endeavor whose goals seemed analogous to those of public health. The methods of the advertiser were borrowed and widely used as health education technics. For example, one health department developed the slogan, "Health Is Purchasable," as a means of getting appropriations. If these methods were questioned, they were justified by statements such as: "The businessman uses these advertising procedures

to sell his product. If they didn't pay in terms of more sales, you can be sure he wouldn't use them. Why shouldn't we use his methods to sell health?"

In an effort to interest school children the health message was sugar-coated. Health songs, poems, dramatizations, fairy stories, and the like were used extensively without any follow-up or measurement of their value.

Such was the situation when our honored guest first accepted a research position in a health agency. Now let us look at some of the developments that have taken place during the period of her service in public health. These are the changes to which she has been constantly adjusting to provide up-to-the minute leadership in health education.

First, in the medical and health area itself, the clinical and natural science laboratories, together with field experiments, have concentrated on determining the specific cause, as well as the most effective control agent, for each of the major infectious diseases. With such specifics as mass protection through sanitation, immunizing agents, sulfa drugs, penicillin and other antibiotics, most of the infectious diseases have been brought under control.

Second, means of communication have increased at an almost miraculous rate. It would be difficult to find a household without at least one radio.* In August of last year the Bureau of the Census reported that 76 per cent of our households had one or more television sets. The circulation of periodicals has almost doubled, and the distribution of newspapers has increased, though at a much slower rate. Thus, there are few people in the United States who are physically cut off from new information that might have value to them in improving their health.

Third, discoveries in the field of atomic energy no longer astound us. We have come to expect them. However, one that may have real significance for health improvement was signalized early this year. A complete luncheon of appetizer, entree, vegetables, salad, and dessert—prepared from food that had been preserved over a considerable period of time by radiation—was served to a large public group in Washington. The guests were most enthusiastic about the natural flavor of the food. Consider what this can mean for nutrition and nutrition education, not only in this country, but all over the world.

Fourth, there are many other material developments in electronics, chemistry, physics, and the like, which have contributed to our way of living. They all make possible the realization of some of our goals, so that time and energy are available for other pursuits. They are considerations that will enter into health education planning now and in the future.

Fifth, many economic and sociologic changes have taken place. Practically all of our population can now read. The median years of school completed by persons 14 years and older is more than 10, and a fourth of our total population is in school. We are rapidly reaching the stage where most of the complexities of health problems can be communicated and understood by all of our people who have a desire to know and understand. The total national income of almost four hundred billion is the highest in the history of the country. In terms of individual income, the median for urban and rural nonfarm families surpasses \$4,000 and farm income, though somewhat below 1952, has improved much in the last quarter century. This greater purchasing power makes vastly improved and increased health services a possibility. But we must be realistic, and recognize that other desires come into play when peo-

* In 1950, 96 per cent of the dwelling units in the United States had at least one.

ple consider how to spend their income.

There is one other sociologic change which I should like to mention. Rural living is becoming less and less attractive. Earlier, half of our people lived in rural areas; now the proportion is barely a third and is constantly decreasing. At the same time there is a movement away from cities to the suburbs. The real sociologic and educational significance of this trend is only beginning to be investigated. There is some evidence that there is greater community spirit in suburbia than at the center of the city. At the same time there is competition between community loyalty to activities at the place of work and those at the place of living. Here is a problem that health education will need to study both for programs today and in the future.

While not as spectacular as the technologic applications of the physical and biologic research findings of the past 25 years, nor as apparent as the economic and sociologic changes just mentioned, progress in understanding the "how" and "why" of human behavior has been equally significant. Until World War II the psychologists, sociologists, and anthropologists, each with their own unique methodology, probed human behavior in terms of their own frame of reference. For example, the Freudians focused their investigations on the inner dynamics of the person. Others, like the behaviorists, concentrated their study on variables external to the individual. Still others of the Lewinian school stressed in their investigations such concepts as goals, objects, or activities sought by people. They studied extensively the decision-making process, particularly as it relates to actions a person or group will take voluntarily.

The Second World War created a new setting for social science study and investigation. It brought together researchers from the various groups or schools of thought, forced them to com-

municate with one another and to apply their theories and ideas to specific problems concerned with the war effort.

Out of the joint work on such problems as recruiting and selecting persons for specific war tasks, selling war bonds, reducing absenteeism, increasing production, and raising morale, a more general kind of orientation in the behavioral sciences emerged. As a result of the practical outcomes from these combined efforts, both government and industry made available large sums of money for theoretical and practical research on human behavioral problems. Yet, with all of the advances they have made, no unified theory of human behavior acceptable to all the scientists has been developed which health educators can apply to their work. However, some broad concepts are available for our use.

Behavior is now seen as the function of a great many variables—motivational, perceptual, social, and cultural. How an individual acts and thinks in specific situations seems to depend on inner drives arising from his personal goals and needs, his perception of the situation, and his past experiences, plus the influence of external factors of the situation, including the cultural patterns and social structures in the society to which he belongs. Common goals and experiences of people result in the observed similarities in the behavior of groups, while the individual's own peculiar experiences and motivations produce ways of acting, thinking, perceiving, and believing that are unique to him. This formulation emphasizes the need for health workers to obtain far more specific information about the goals, personality needs, perceptions, and value patterns of individuals as essential data for planning educational programs for health improvement.

It has been shown that people everywhere organize themselves in certain ways which divide them into different

cultural, class, or status groups, with a resultant limitation on full communication between groups. What better illustration of this concept and its operation do we need than the cultural and status differentials between doctors and laymen, and the problems in communication that result. Improving the communication between such groups, and especially doctors and the public, is a task that will demand much ingenuity on the part of health educators.

In the health work in other countries, as well as among some of the minority groups in this country, the importance of existing cultural patterns and concepts has been shown by social scientists. They have also analyzed the way in which cultural changes may be brought about or resisted, and how these have meaning to our health planning.

A complete catalogue of social science concepts useful to health educators is beyond the scope of this paper. Enough has been given, however, to suggest that the progress behavioral scientists have made over the years provides a rich storehouse for educators and practitioners in the public health field.

In addition to the scientific findings on behavior there is the development of new methods for uncovering meaningful information about individual and group behavior. Methods of sampling, interviewing, open-end questioning, projective technics, and other such procedures have been improved and developed. In health education we need to become acquainted with ways of adapting these research tools and making use of them in our day-to-day practical work.

One other encouraging development is the trend toward behavioral research in the content area of public health. The work of Paul, Simmons, Saunders, and Koos, as well as the work of Knutson and his staff in the United States Public Health Service, are merely the beginning of what will be a tremendous expansion of the theoretical

and the practical research in this area.

In this rapidly changing social and technologic milieu what are some of the problems facing health education? The major specific health problems are those of chronic diseases, accidents, alcoholism, and mental illness. As we contemplate the job to be done in connection with these problems, I should like to emphasize some essential differences between them and the problems on which so much progress has been made in the past.

For many of the infectious diseases responsibility for control rested with the health authorities. The health department, through some measure such as water treatment or enforcement of sanitary regulations, provided protection for all the people, regardless of their own personal actions. Even where prevention depended on the people taking some action, it usually was a single act, such as immunization or vaccination, which was relatively inexpensive and not too inconvenient. Very often the action was taken on behalf of a child and not for the health of the individual who took the action.

But prevention or control of the conditions facing us today demands quite a different set of behavior patterns. Self-initiated action is required of the person whose health is involved. The indicated action may often lead to considerable expense, may be grossly inconvenient, and may require major revision of the individual's habit patterns.

For each of the diseases that have been "conquered," science discovered a single direct cause in a bacterium, virus, or other invading organism and provided a specific preventive or control measure. The direct cause-and-effect relationship between actions taken by the people and the results achieved were easy to demonstrate. If children are immunized for diphtheria, pertussis, and tetanus they do not develop the diseases. Penicillin quickly conquers streptococ-

cal infections and DDT demonstrably reduces the mosquito population. In such situations, education is relatively easy, for the effects of the advised action are readily apparent to the individual.

Over the years the success of scientists in finding the single cause for each of so many diseases and in developing a specific either for its prevention or control has led the public to expect a continuation of miraculous discoveries of fairly simple, easy-to-use remedies. Witness the rapid acceptance of the polio vaccine when it was released. It is doubtful that any other medical discovery has been accepted by the public with such alacrity. And this has taken place in spite of some of the unfavorable circumstances that arose. This public expectation of a single causation of disease entities and ready acceptance of new discoveries, particularly when they are simple and easy to take, is a real handicap to health education in today's problems.

So far as we know the chronic diseases and other health problems of today are caused by a multiplicity of physiologic, psychologic, and sociologic factors. It is not likely that a single causative organism or chemical will be found. Neither does it seem likely that a single preventive or control method will become available. Of course, I realize that tomorrow some laboratory may discover a formula for the Fountain of Youth which will out-date this information, but from the evidence now at hand we are forced to assume that such control as can be accomplished will probably depend on a series or combinations of actions, some, if not all, of which will demand changes in habits of a lifetime. Furthermore, even if the actions for prevention or control are effective, the cause-and-effect relationship is not likely to be so readily apparent to the people. When people expect a single causation for a given disease and a single action to bring about control,

it will not be easy to stimulate a series of actions the effect of which cannot be easily demonstrated.

May I say, also, that this problem exists no less with the profession than with the public. It is difficult for the professional person also to identify clearly the role of education in dealing with problems that are ambiguous as to cause and complex in their solution.

This widespread expectation that a single disease has a single cause and a simple cure plays directly into the hands of quacks. Recently, Postmaster General Summerfield reported that "sure-cure" medical quackery by mail had "reached the highest level in history." During the past year "... postal inspectors have prepared cases representing an annual loss to the public of fifty million dollars."⁸ To develop ways to combat quacks in their exploitation of this advantage is a challenge to us in health education. Many lives could be saved that are lost because of dependence on quacks.

The task of effecting an understanding of multiple causation is made even more difficult by the lack of scientific evidence and resultant lack of medical agreement on the combination of causes, the relative importance of each cause, and the combination of steps that one needs to take to avoid the conditions. Even in diabetes, where the disease process is better understood than in most chronic disorders, there are purists insisting on strict diet or chemical control; the free dieters prescribing symptom control; and the middle-of-the-rovers that combine chemical and symptom control.

In less well defined areas the differences in treatment are even more varied. Imagine the confusion of patients who may get conflicting advice on what to do about their illness from differing house officers or residents, even in the same teaching hospital. Recently, we have had a health educa-

tor working in the chronic disease ward of a general hospital. One of her important findings was the diversity of medical opinion on what kinds of adjustments—diet, work patterns, drug therapy—the same patient should make. What kinds of learning experiences can the educator create for constructive behavior-change, when the change needed is not well established? I recounted this dilemma to a leading medical educator. His answer, though scientific, in no way provided a solution for the problem. He said, "Well, the evidence shows that widely divergent methods seem to have approximately the same degree of effectiveness."

Until medical research has proof of causes of our present conditions and effectiveness of combinations of habit patterns in controlling or curing each condition, health education is going to be seriously hampered in making its potential contribution to the reduction of the disabling conditions occurring today.

In addition to the difficulties health education faces, with respect to the health problems and to the educational work that can be done, there are two other realities in our society that have a bearing on the future of health education. The first concerns the degree to which health operates as a motivating force in determining behavior.

Earlier, I indicated that the public's and the health worker's common concern about the acute infectious diseases might have obscured to the public health worker the importance of motivation in the public's behavior. We tended to assume that the interest of the public in health, as a goal in life, was equivalent to ours. We are now beginning to discover that health, *per se*, is not always the important goal that motivates people's actions.

Stouffer, in his study of the concerns of a cross-section sampling of Americans, showed that health, either their own or that of someone in the family,

was mentioned by only 24 per cent of the people.⁹ Rosenstock, in his pretest sample for a study on perceived needs of people, found a similar figure. He was able to identify one group that always mentioned health; this comprised the parents of small children. Their concern was not about their own health, but that of their offspring. Here is a health concern that has remained relatively constant over the years.¹⁰

But the large majority of the population have concerns other than health. Their present physical condition seemingly is no deterrent to the achievement of personal goals, such as professional, economic, social, or political success. Witness the long, strenuous hours put in by our physicians and the resultant high rate of heart disease in that occupational group. Certainly, no health adviser would prescribe the rigors of campaigning to which our politicians subject themselves, nor the all too frequent banquets which the successful ones must attend.

It may be disconcerting to us as health workers to accept the existence of this low level of concern about health. This is particularly so, since the social scientists have demonstrated that people do not act unless they are motivated, or otherwise see their action as satisfying some goal they have.

Another reality which health education must face is that many of the social problems of today require action on a broader front than the present operating definition of health embraces. Problems of the aged, juvenile delinquency, civil rights, slums—city and rural—unplanned suburbia, all have health aspects, but sometimes health plays a minor role.

Full solution of the problems requires the skills and talents of many professional groups and organizations working together. For example, meeting the problems of the older person demands the skills of individuals who can help

on income maintenance, recreation, vocational rehabilitation, education, housing, and health, to mention only the most obvious ones.

These last two facts, namely, that the primary concern of many people is with goals other than health and that the scope of social problems in communities embraces many more facets than health pose real difficulties for health education in the future.

Are we, as health educators, going to manipulate the people, or otherwise pressure them into doing something about health and neglect the other aspects of the broad problems confronting them? Are we going to work with them to achieve some aspects of their goal, so that they will reward us by working on the health problems of our concern? Or are we going to help people, individuals and groups, to achieve the constructive goals they have regardless of their relation to health? And if we do concentrate our effort outside the health area, how is our health administrator going to perceive us, even though our efforts may contribute ultimately to long-term health improvement? These questions pose a real dilemma for us in health education.

Surely, there are a number of ways in which the problem can be met. One possible direction might be the broadening of the health educator's role so that he might be able to help individuals and communities cope with the problems of their concern. In such a role he would do the same things that good health educators do, except that the content area in which he works would not be limited to health. Specifically, the task would be to assist people to obtain the best technical resources available and also help them to comprehend the "pros" and "cons" of the alternative actions they might take. Once they reach a decision he would help in planning the step-by-step action they need to take in order to reach their goal. To be

effective he would need to know the sources of technical competence on a wide range of problems, but not necessarily be the source of information himself.

Actually, what is being suggested is a type of professional community worker who will do for human betterment everywhere what the county agent or extension worker has started to do for the betterment of farmers in selected demonstration areas. The type of work may be signified by some such title as, "Extension Worker for Conservation of Human Resources." Of course this title is much too long, but it suggests the breadth of educational responsibility involved. Think of the rapid, practical translation of scientific findings into improved human living, if in every community of this country there were available a community worker who was effective in giving such educational service.

Perhaps some of you are thinking, "What would this mean for health education and health educators?" Would it not mean broadened scope of activities, greater freedom to work in all phases of human improvement and opportunity to utilize to the maximum the findings of the behavioral sciences concerning individual and group behavior change? Ultimately, we might be joining hands with agricultural extension workers, rural development workers, and adult educators, each of whom would likewise broaden his scope and horizons as well as become more qualified in the fields in which he is not now working. To our background in social science, education, and knowledge of health resources we would add information about the technical resources in all the other fields. But this would not be such a difficult task.

There are many unanswered questions about this concept. To whom should the worker report? How would the community worker keep up on all

new developments? Who should pay for such a person? Would health, recreation, housing, rehabilitation, and other social program administrators be willing to permit communities to decide the problem on which they would work if the vested interests of the social agencies were not served?

These are only some of the many valid questions that need to be answered concerning this one proposal. Doubtless there are other suggestions for the kinds of constructive change which health education should be making to fit into the realities of today's society. As a young profession, we should be constantly seeking effective ways to improve human living and make it more satisfying. In so doing we shall need to be constantly alert to the problems of concern to the people and to utilize all that is known about the way people react, think, and work. If the new ways of working encounter administrative and organizational barriers, we should seek satisfactory ways of overcoming them. After all, administration and organization are creatures of our own development. They, too, are subject to change.

In honoring our guest tonight, we have reminded her of the vast changes she has experienced since she first started contributing to public health. To many of these changes she has made

tremendous contributions. One last one, unmentioned until now, is the development of a professional corps of health educators. Her students, and the work they are doing, attest to the extensive contribution she has made to this development. As we in health education now look to the future and the possible expansion of the scope of problems on which we can work, I feel certain that we will accept the challenge and pioneer as Dr. Nyswander has done always thinking ahead, testing, revising, improving, and contributing to make the lives of all of those with whom we work much more satisfying.

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Postdoctoral Study in Statistics

✻ Persons whose primary field is one of the physical, biological, or social sciences to which statistics can be applied rather than in statistics as such, are invited to apply for an award for study in statistics being offered by the Department of Statistics of the University of Chicago. The awards, for postdoctoral students, range from \$3,600 to \$5,000 on the basis of an 11-month residence. They are made possible by a grant to the university from the Rockefeller Foundation. February 15, 1958, is the closing date for application for the academic year 1958-1959. Further information from the Department of Statistics, Eckhart Hall, University of Chicago, Chicago 37, Ill.